Employee Satisfaction and Organizational Performance: A Consideration of White- and Blue-Collar Employees

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Abstract

This study examines the impact of employee satisfaction on the financial and non-financial performance of both white- and blue-collar employees, and explores potential variations in satisfaction factors between the two groups. In doing so, the study analyzes more than two million Glassdoor employee reviews from 2010 to 2022 for US-listed companies. The findings have several implications. First, white-collar employees demonstrate a higher level of satisfaction compared to their blue-collar counterparts. Second, investigating the impact of employee satisfaction on performance metrics uncovers distinct patterns between the two groups. White-collar satisfaction demonstrates a significant positive relationship with Tobin's Q, suggesting that market value the satisfaction of this group, whereas blue-collar satisfaction exhibits no significant association. However, blue-collar satisfaction is positively linked to ROA, suggesting a positive contribution to firm profitability. These findings emphasize the importance of employee satisfaction in driving organizational success, particularly in labour-intensive industries. In contrast, non-labour-intensive sectors reveal divergent perspectives, with blue-collar employee satisfaction showing a significant negative impact on both ROA and ROE, aligning with traditional cost-oriented views of employee value. Moreover, in our analysis, both white- and blue-collar employee satisfaction does not show any significant impact on firms' non-financial performance. Furthermore, our study highlights that both white- and blue-collar employees respond similarly to intrinsic and extrinsic motivators, prioritizing intrinsic factors such as job fulfillment and growth opportunities over extrinsic ones like salary and benefits. This shows the importance of tailoring motivational strategies to meet the intrinsic needs of employees, irrespective of their job category, emphasizing the pivotal role of intrinsic factors in fostering job satisfaction and organizational performance.

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I. INTRODUCTION

"Your work is going to fill a large part of your life, and the only way to be truly satisfied is to do what you believe is great work. And the only way to do great work is to love what you do."

(Steve Jobs)

In today's rapidly changing business world, the workforce is a critical resource for businesses to achieve strategic success and competitive advantage (Boudreau and Ramstad, 2007). Employees are more than just cogs in the machine; they are the driving force behind innovation, productivity, and customer satisfaction. Their contributions go beyond their specific job duties, including their commitment, creativity, and morale, all of which have a significant impact on a company's competitive edge. Scholars have recognized the workforce as an important factor of production and have focused their attention on understanding how it can benefit both organizations and the broader economy (Bernanke, 2004; Hamermesh, 1996). Furthermore, the perspectives on employees within organizations have evolved significantly, shifting from viewing employees as a substantial cost, as outlined in the principal-agent theory (Jensen and Meckling, 2019), to recognizing employees as a valuable asset, aligning with the principles of human relations theory (Herzberg, 2017; MacGregor, 1960; Maslow, 1958).

As we delve deeper into the pivotal role of employees within organizations and their significance in the broader economy, it becomes evident that employee satisfaction is a central component of this discussion. Employee satisfaction, often regarded as a measure of well-being and contentment within the workplace, has emerged as a subject of increasing interest among scholars and practitioners (Matzler and Renzl, 2007). It is acknowledged for its potential to influence the dynamics of the workforce, organizational culture, and, ultimately, the financial performance of businesses. Studies in this domain have revealed a multifaceted relationship where employee satisfaction can have both positive and negative consequences, making it a subject ripe for exploration in the context of evolving workforce paradigms and the two contrasting workforce perspectives: as a cost to be minimized or a valuable asset to be invested in for long-term success.

In this regard, a substantial body of research has investigated the relationship between employee satisfaction and a variety of financial and non-financial outcomes. These studies find evidence that higher employee satisfaction is associated with, among others, higher stock returns (Edmans, 2012), improved future earnings (Hales et al., 2018), greater customer

satisfaction (Chi and Gursoy, 2009; Yee et al., 2008), greater firm innovation output (Chen et al., 2016; Mao and Weathers, 2019), lower likelihood of corporate fraud (Zhang et al., 2020), and higher financial performance and valuation (Cao and Rees, 2020; Chang and Jo, 2019; Fauver et al., 2018; Huang et al., 2015). In contrast, Tornow and Wiley (1991) find evidence of a negative relationship between employee satisfaction and financial outcomes. Gorton and Schmid (2004) find a negative relationship between employee satisfaction and both profitability and valuations. Ben-Nasr and Ghouma (2018) demonstrate that excessively generous employee welfare tends to contribute to stock price crash risk. Finally, Fedyk and Hodson (2023) posit that investments in technically skilled employees are associated with negative future returns.

Prior research on the relationship between employee satisfaction and organizational outcomes is thus mixed, highlighting the need for a deeper understanding of this complex relationship. One notable gap in previous studies pertains to the failure to distinguish between different types of employees. Drawing from the well-established dual labour market theory proposed by Doeringer and Piore (2020), which dichotomizes the labour market into a primary and secondary market, we argue that the level of employee satisfaction can vary significantly between white- and blue-collar employees. White-collar employees, often considered part of the primary labour market, typically enjoy advantages such as higher wages, better working conditions, employment stability, opportunities for advancement, and equitable work rules. In contrast, blue-collar employees, associated with the secondary labour market, often contend with lower wages, fewer fringe benefits, challenging working conditions, higher labour turnover, limited prospects for advancement, and sometimes arbitrary supervision.

These disparities between employee classes can have an impact on job satisfaction. For instance, the finding that white-collar workers are more satisfied with their job than their blue-collar counterparts is usually interpreted by attributing it to the objective characteristics of each job category, such as the level of control and autonomy, resulting in greater satisfaction with the work itself (Hackman and Oldham, 1980; Humphrey et al., 2007). Moreover, Gerhart and Milkovich (1990) suggest that the greater the hierarchical level of a job within an organization, the more significant the impact on the overall performance of the organization. This suggests that white-collar workers may have a more significant impact on organizational performance compared to their blue-collar counterparts. In this context, white-collar employees can be seen as key organizational assets aligned with human relations theories (Likert, 1967; Maslow, 1943; McGuire et al., 1988; McLeod et al., 2012), and blue-collar employees a cost in line with traditional theories (Taylor, 1911). Research has demonstrated that white-collar employee

satisfaction has a positive impact on overall organizational success (Gerhart and Milkovich, 1990a; Ikäheimo et al., 2018; O'Shaughnessy, 1998).

Examining the significance of blue-collar labour is crucial, given that, despite the increasing prevalence of knowledge-based work, a substantial portion of the U.S. workforce comprises blue-collar workers. According to the U.S. Bureau of Labor Statistics (2022), there were 71 million jobs associated with blue-collar occupations out of a total employment of 164 million in 2020, representing 44 percent of the overall workforce. However, there is limited understanding regarding the relationship between blue-collar employee satisfaction and organizational outcomes. The literature recognizes the importance of studying job satisfaction across different types of workers (Logan et al., 1973), the over-emphasis on white-collar workers (Sloane et al., 1999), and a lack of studies on blue-collar workers (Chen et al., 2017; Sassi et al., 2015).

Notably, this aspect has been frequently neglected in previous studies, where findings are often generalized without consideration of the inherent differences between blue- and white-collar employees. Understanding these differences is crucial for optimizing resource allocation and enhancing organizational performance. Further research is needed to delve into the intricacies of employee satisfaction, job classifications, and financial outcomes. The distinctions between white- and blue-collar employees give rise to distinct approaches, that underscore the importance of investigating how employee satisfaction, across different employee groups, relates to both financial and non-financial organizational performance. Our study aligns with the research framework proposed by Logan et al. (1973) to examine satisfaction patterns across diverse worker groups. As a result, we pose the following central question for our research:

How does employee satisfaction vary between white- and blue-collar employee groups and what are the implications for financial and non-financial organizational performance?

Our research contributes to the existing literature in three key areas. First, it represents a pioneering archival study employing both longitudinal and cross-sectional data to investigate the impact of job satisfaction among white- and blue-collar employees on both firm financial and non-financial performance. Unlike prior research, which has generally examined the performance effects of employee satisfaction without distinguishing between differences in employees' job characteristics (Guo et al., 2016; Cao and Rees, 2020; Chang and Jo, 2019; Chen et al., 2016; Chi and Gursoy, 2009; Chi and Chen, 2021; Edmans, 2012; Fauver et al., 2018; Francis et al., 2019; Ghaly et al., 2015; Hales et al., 2018; Huang et al., 2015; Li, 2022; Mao

and Weathers, 2019; Verwijmeren and Derwall, 2010; Yee et al., 2008; Ylinen and Ranta,2021; Zhang et al., 2020), our study delves into the unique contributions of white- and blue-collar job satisfaction, offering a comprehensive analysis.

Second, our research moves beyond merely comparing how job satisfaction impacts performance. It also identifies specific elements of employee satisfaction that are significant for white- and blue-collar workers. Previous studies indicate that the effectiveness of job satisfaction factors varies depending on job-related characteristics (Centers and Bugental, 1966a; Hu et al., 2010; Locke, 1976; Mottaz, 1985; Ronen and Sadan, 1984). These studies typically focus on a single organization and a uniform motivational factor is often applied to employees, neglecting the diverse motivational factors influencing individuals. Such an approach raises concern about the efficacy of a universal strategy that may not be suitable for all workers. Work motivation is inherently complex and cannot be adequately addressed with a singular approach. Consequently, our study surpasses existing research by empirically exploring a wider array of job facets across different industries. This method aims to provide a more inclusive understanding of job satisfaction among alternative worker groups.

Third, our study provides insights for managers, emphasizing the importance of employee satisfaction and its impact on how organizations perform. It underscores the need to differentiate between white- and blue-collar employees when addressing employee satisfaction, aiding managers in developing strategies to boost satisfaction and enhance their organizations' performance. Furthermore, it offers investors a better grasp of the connection between employee satisfaction and financial results. This knowledge supports investors in making informed decisions about their investments. For example, investors may choose to invest in companies with high employee satisfaction, as these companies generally demonstrate strong financial performance.

II. Literature and Hypotheses development

Human capital, encompassing skills, education, experiences, potential, and capacity within an organization, serves as a key driver of competitive advantage (Richard, 2001). Effective management of human capital enables organizations to measure, leverage, and optimize these valuable assets (Afiouni, 2007; Del Giudice and Della Peruta, 2016; Hitt et al., 1998; Vrontis et al., 2017). Becker's (2009) human capital theory posits that individuals investing more in attributes like education, training, and experience tend to exhibit higher performance, leading to better outcomes. Extending this, various studies (Dolton and Silles,

2008; Duncan and Hoffman, 1981; McGuinness and Sloane, 2011; Sicherman, 1991; Sloane et al., 1999) confirm that higher human capital levels positively impact workers' productivity.

Moreover, Morrell et al. (2004) emphasize human capital as a significant determinant of a firm's success. Recognizing the pivotal role of human capital, employee job satisfaction becomes a crucial concern for organizations. Employees satisfied with their jobs are more likely to contribute to enhanced organizational performance and the accomplishment of strategic objectives (Judge et al., 2001; Moynihan and Pandey, 2007). This underscores the interconnectedness of human capital, job satisfaction, and organizational success.

Employee job satisfaction is a crucial factor in organizational research, receiving significant attention because it influences employee attitudes and behavior. It represents the dynamic interaction between job conditions and individual reactions, which can manifest either positively or negatively. When job conditions are favorable, employees are more likely to feel satisfied. Conversely, when job conditions are unfavorable, employees are more likely to experience dissatisfaction. Essentially, job satisfaction mirrors employees' expectations regarding the fulfillment of essential aspects within their work environment.

Job satisfaction, manifested through employees' positive or negative feelings during work, is extensively gauged by parameters such as happiness, contentment, and comfort (Markovits et al., 2014; Singh and Jain, 2013). Diverse definitions abound in the literature, with Locke (1976) characterizing it as an emotional response. Traditionally, it is perceived as workers' feelings about their job experiences concerning past, present, or potential future situations (Balzer, 1997). Hulin and Judge (2003) define it as a multidimensional psychological response, emphasizing its dual nature as both affective and cognitive. Locke (1976) associates job satisfaction with a pleasurable or positive emotional state resulting from the appraisal of one's job.

Job satisfaction is a general attitude that is influenced by specific factors such as job characteristics, individual traits, and group relationships (Blum and Naylor, 1968). It is a crucial factor for organizational success, as it is associated with various outcomes, including increased employee morale, efficiency, and professionalism (Golden and Ramanujam, 1985). Satisfied employees are more likely to engage in training and skills (Moncarz et al., 2009). Prioritizing employee welfare tends to achieve higher labour investment efficiency, leading to stronger innovation, less absenteeism, lower labour adjustment costs, and improved recruitment and retention (Cao and Rees, 2020; Bartlett, 2001; Chen, 2006; Stamolampros et al., 2019; Winterton, 2004; Lu et al., 2016; Schaufeli et al., 2008; Harter et al., 2002; Reddin, 1970; Mao

and Weathers, 2019; Ostroff, 1992; Wright and Cropanzano, 2000). Conversely, the absence of job satisfaction can lead to lethargy, reduced organizational commitment, increased staff turnover, and even job quitting (Jamal, 1997; Moser, 1997; Lam et al, 2001). Nearly 90% of employees would consider leaving their jobs if dissatisfied with their workplace (Pizam and Thornburg, 2000).

Additionally, Ryan et al. (1996) highlight that the morale of employees notably affects customer satisfaction, turnover ratios, and key business performance metrics. Evans and Jack (2003) demonstrate a favourable influence of employee satisfaction on market performance, assessed by earnings per share. Schneider et al. (2003) identify a positive relationship between return on assets and earnings per share with elevated job satisfaction.

Edmans (2011) and Becker et al. (2022) independently confirm a positive relationship between employee satisfaction and stock returns. Edmans (2011) utilizes the "100 Best Companies to Work for in America" list (Fortune magazine, 1984–2009), finding that investing in companies with high employee satisfaction leads to increased shareholder returns. He also suggests the stock market may undervalue intangible factors like employee satisfaction. Similarly, Becker et al. (2022) highlight the positive relationship, indicating that satisfied employees provide valuable insights into future profitability, influencing investor speculation. Li (2022) delves into the impact of employee satisfaction on tax department productivity, revealing its role in increased tax avoidance and reduced tax risk. Hales et al. (2018) contribute to this narrative, emphasizing a positive employee outlook as a significant predictor of future corporate disclosures. These findings collectively highlight the intricate relationship between employee satisfaction and diverse organizational outcomes, underscoring its significance in shaping financial performance, innovation, and overall corporate success.

Despite the widespread notion that enhancing employee motivation and satisfaction leads to improved financial performance, some studies have presented contrasting findings. Tornow and Wiley (1991) observe a persistent negative relationship of employee satisfaction with particularly aspects like pay and benefits, as well as financial outcomes. Gorton and Schmid (2004) find that companies with higher levels of employee involvement tend to have lower profitability and valuations. However, other studies suggest an insignificant relationship between employee satisfaction and financial performance. For instance, Wiley (1991) and Bernhardt et al. (2000) are unable to establish a significant link between overall employee satisfaction and financial performance. These findings highlight the complexity of the relationship between employee satisfaction and financial outcomes.

2.1. Differences in white- and blue-collar employees

The impact of job satisfaction on firm performance is well-established. However, a deeper understanding of which employees drive this effect and how their diverse perceptions and task characteristics influence job satisfaction is beneficial.

Humphrey et al. (2007) provide an understanding of blue-collar and white-collar employees, characterizing blue-collar as manual labour in physically demanding, nonprofessional occupations, and white-collar as engaging in knowledge work within professional settings, often enjoying greater autonomy. This initial distinction sets the stage for understanding the differences in their job experiences. Hu et al. (2010) delve into the different conceptualizations regarding the nature of co-workers, pay, and the work itself between blue- and white-collar workers. White-collar employees exhibit a more nuanced and multifaceted approach to evaluating their co-workers, distinguishing between interpersonal likability and work habits. In contrast, blue-collar workers appear to adopt a more uniform assessment of their co-workers without making such distinctions. Regarding pay, white-collar workers conduct a comprehensive evaluation considering factors like job security and benefits, indicating a multifaceted perspective on their compensation. Conversely, blue-collar workers approach pay evaluation more straightforwardly, primarily focusing on the amount they are paid. When considering the nature of their work, white-collar workers engage in more complex and varied job tasks and demonstrate more differentiated and multidimensional evaluations. On the other hand, blue-collar workers, often involved in routine and monotonous jobs, likely have simpler and less varied assessments of the nature of their work.

Hennequin (2007) expands on the differences between white- and blue-collar workers, exploring their distinct ideas about career success, levels of job involvement, and perceptions of work meanings. Blue-collar workers prioritize tangible aspects like job security, compensation, and interpersonal connections when defining career success. In contrast, white-collar workers place greater value on subjective factors such as job satisfaction, professional growth, and autonomy. Regarding levels of job involvement, blue-collar workers often view their work as a means to an end, while white-collar workers perceive it as a source of fulfillment. For blue-collar workers, work is often seen as a necessity to meet basic needs, while white-collar workers view it as a source of accomplishment, highlighting the disparity in their perceptions of work's meaning and purpose (Hennequin, 2007). Variances in job involvement levels (Kaufman, 1986), reactions to job aspects like role strain and upward mobility (Mathieu and Hamel, 1989), and the significance of job characteristics in determining overall job

satisfaction (Berger, 1986; Ronen and Sadan, 1984) underscore the complexity of white- and blue-collar professional experiences.

2.2. Employee job satisfaction and organizational outcomes through diverse workforce

Employees across different levels, with diverse skill sets and task complexities, play a significant role in shaping the performance of their companies (Frow et al., 2005; Kujansivu and Oksanen, 2010; Stajkovic and Luthans, 2001). Most research has commonly employed incentives as a proxy for measuring job satisfaction among white-collar employees (Du et al., 2013; Gerhart and Milkovich, 1990; Ikäheimo et al., 2018; Kauhanen and Napari, 2012; O'Shaughnessy, 1998), while studies have shown that blue-collar workers have not received significant attention from researchers (McLeod et al., 2012; Nielsen and Abildgaard, 2012; Strandholm et al., 2013).

O'Shaughnessy (1998) finds that white-collar compensation impacts return on equity at different levels of the organizational hierarchy including executive managers, general management, supervisors or managers of non-supervisory employees, and exempt non-supervisory employees (e.g., accountants). Furthermore, the study indicates that the association between compensation and financial performance varies across different hierarchical levels within an organization. This suggests that the impact of compensation on financial outcomes is not the same across different hierarchy levels. Ikäheimo et al. (2018) demonstrate that performance-based incentives for white-collar employees have a positive impact on future profitability measures, including return on assets, return on equity, and profit margin. Gerhart and Milkovich (1990) find that compensation decisions have significant implications for attracting and retaining white-collar employees, cost-effectiveness, and overall organizational success. The study emphasizes the strategic importance of compensation decisions for white-collar employees, as their roles often involve significant responsibilities and contributions to organizational performance. This approach indicates a widespread tendency to use incentives as a representative variable when exploring and assessing job satisfaction levels within these employee categories.

In addition, organizational performance is intricately tied to workforce composition and engagement of blue-collar employees, as evidenced by several key studies. Dewaelheyns et al. (2019) find a positive relation between a higher proportion of blue-collar workers and enhanced financial performance. The rationale lies in the relative flexibility and cost-effectiveness associated with blue-collar employment, facilitating workforce adjustments that positively

impact financial metrics. This distinction arises from the less stringent labour protection rules governing blue-collar workers compared to their white-collar counterparts. Santhanam and Srinivas (2019) emphasize the pivotal role of blue-collar workers, particularly in manufacturing settings where manual labour and physical strain are inherent. The study underscores the importance of effective engagement to mitigate burnout and reduce turnover among blue-collar workers.

Moreover, the relationship between blue-collar employees and financial performance is further elucidated through the impact of skill mapping on crucial performance indicators. Mittal et al. (2019) show that a robust skill mapping process can elevate the knowledge and skill levels of blue-collar workers, ultimately leading to improvements in productivity, quality, and safety. The study underscores the importance of aligning the key result areas of blue-collar employees with organizational objectives, establishing a direct link between their skills and the financial outcomes of the organization. These findings emphasize the multidimensional impact of blue-collar workers on organizational success, as well as the need to take a strategic approach to their involvement and skill development.

This prompts the exploration of the following hypothesis:

***H1A**: Employee job satisfaction has a positive relationship with the organization's performance for both white- and blue-collar employees, and this relationship is more pronounced among white-collar employees.*

Labor-intensive industries rely heavily on the contributions of employees to maintain competitiveness, highlighting the significance of job satisfaction in driving organizational performance. Conversely, industries characterized by low labour intensity exhibit varied impacts of job satisfaction on business performance, stemming from differences in work nature, employee skillsets, and organizational structures. Steyn and Vawda (2014) confirm distinctions between traditional and technology-driven industries in terms of job characteristics, leading to differing levels of job satisfaction and stress among employees. This variability indicates the necessity of accounting for industry-specific factors when analyzing the relationship between job satisfaction and performance (Gazioglu and Tansel, 2006; Muñoz et al., 2015). Acknowledging these insights, we propose a hypothesis that explores the effects of employee satisfaction on organizational performance across different industry contexts.

***H1B**: The relationship between employee job satisfaction and organizational performance for white- and blue-collar employees varies significantly between industries characterized by high labor intensity and those with lower labor intensity.*

2.3. Factors impact on satisfaction

A crucial element in human resource management involves understanding employees' values, motivations, and satisfaction factors. This understanding empowers human resource managers to strategize efforts for employee retention and enhance the motivation of the workforce.

Amabile (1993) argues that there are two categories concerning motivation in the workplace: intrinsic and extrinsic motivation. Intrinsic motivation is characterized by the desire to engage in an activity for the sake of the activity itself, aiming to encounter the inherent pleasure and satisfaction embedded within the task (Deci et al., 1989). Extrinsic motivation, on the other hand, is commonly described as the drive to participate in an activity to achieve favorable outcomes like rewards or to evade unfavorable consequences such as punishments (Ryan and Deci, 2000).

Herzberg's two-factor theory, also known as the motivation-hygiene theory, suggests that there are two distinct sets of factors that influence job satisfaction and dissatisfaction. These factors are divided into motivation factors and hygiene factors. Motivation factors are related to the actual job itself and the content of the work. Examples include achievement, recognition, the work itself, responsibility, advancement, and the possibility for growth. Motivation factors lead to positive attitudes towards the job and are essential for job satisfaction. Hygiene factors are external to the job and are related to the work environment and conditions. Examples include company policies and administration, working conditions, and salary. Hygiene factors, while important in preventing dissatisfaction, do not directly lead to job satisfaction. Intrinsic motivators are synonymous with Herzberg's motivation factors, as they are inherent to the job itself and contribute to job satisfaction. On the other hand, extrinsic motivators align with Herzberg's hygiene factors, as they are external to the job and focus on preventing dissatisfaction rather than directly increasing satisfaction (Herzberg, 2017).

Prior research, such as the work by Janssen (2003), suggests that a variety of factors play a role in influencing employee satisfaction. These factors include elements such as positive relationships with supervisors and colleagues, compensation and benefits, career development,

advancement opportunities, and a positive work environment (Rad and Yarmohammadian, 2006). Bowen and Lawler (1995) find that empowerment positively impacts employee satisfaction by enabling employees to resolve service issues and potentially exceed customer expectations. Additionally, promotion opportunities, as studied by Kim et al. (2009) and Nankervis and Debrah (1995), play a crucial role in preventing employee turnover and enhancing job satisfaction. Moreover, Pizam and Thornburg (2000) highlight the significance of compensation and benefits in retaining employees and fostering job satisfaction. Furthermore, Erkutlu (2008), and Kim and Brymer (2011) identify leadership behaviour as a key determinant of employee satisfaction, emphasizing the importance of motivational and supportive leadership practices.

Differences in job characteristics between white- and blue-collar employees lead to variations in the factors that motivate and satisfy them. White-collar workers generally place greater value on intrinsic aspects of their jobs, such as challenging tasks, opportunities for recognition and achievement, responsibilities fostering growth, and the inherent nature of the work itself (Centers and Bugental, 1966; Locke, 1976; Mottaz, 1985; Ronen and Sadan, 1984). Locke (1976) highlights that white-collar employees tend to derive satisfaction from challenging and meaningful tasks, opportunities for achievement and recognition, responsibilities that foster growth and development, and the intrinsic nature of the work. On the other hand, blue-collar employees find satisfaction in reward and context events, including fair compensation, opportunities for advancement, good working conditions, and a supportive social and physical environment. These factors reflect the significance of external rewards, working conditions, and social aspects of the job.

Mottaz (1985) suggests that employees in higher-level occupations tend to have greater access to intrinsic rewards, such as meaningful, interesting, and challenging tasks, and report higher levels of work satisfaction than workers in lower-level occupations, suggesting that intrinsic rewards play a significant role in shaping the job satisfaction of white-collar workers. In contrast, extrinsic organizational rewards, such as pay, fringe benefits, promotions, and working conditions, have a significant and positive effect on job satisfaction specifically in lower-level occupations, including blue-collar workers. This implies that factors related to pay, benefits, promotions, and working conditions play a crucial role in influencing the overall work satisfaction of blue-collar workers.

Furthermore, blue-collar workers often experience lower job satisfaction compared to their white-collar counterparts, particularly concerning aspects like pay and the meaningfulness

of their work (Çiçek, 2013). Numerous studies consistently highlight that, in various job aspects such as pay, supervision style, and the nature of the work, blue-collar workers tend to exhibit lower satisfaction levels than their white-collar counterparts (Lee and Wilbur, 1985; O'Farrell and Harlan, 1982; Weaver and Holmes, 1975).

Considering the previous studies, the lack of clarity and understanding regarding the specific motivators and satisfiers that contribute to job satisfaction within different occupational groups, particularly between white- and blue-collar employees, is evident. We address this gap by framing our hypotheses within Herzberg's two-factor theory for white- and blue-collar employees. This understanding supports targeted strategies for enhancing job satisfaction and motivation tailored to the unique needs and preferences of each group. Therefore, we propose the following hypotheses:

***H2A**: Intrinsic (non-financial) factors of satisfaction have a positive relationship with overall employee job satisfaction for white- collar employees.*

***H2B**: Intrinsic (non-financial) factors of satisfaction have no relationship with overall employee job satisfaction for blue- collar employees.*

***H2C**: Extrinsic (financial) factors of satisfaction have a positive relationship with overall employee job satisfaction for blue-collar employees.*

***H2D**: Extrinsic (financial) factors of satisfaction have no relationship with overall employee job satisfaction for white-collar employees.*

III. Data and summary statistics

3.1. Data description

In our study, which centres around U.S. listed firms from 2010 to 2022, we leverage the power of Glassdoor, a leading online platform for aggregating comprehensive employee satisfaction data. Founded in 2008, Glassdoor offers a platform for employees to provide anonymous evaluations of their employers. Using a 5-point rating scale, they assess various aspects of workplace quality and job satisfaction. Each employee review encompasses ratings on a 5-point scale, evaluating several key metrics. These metrics include overall job satisfaction, work/life balance, firm culture and values, career opportunities, compensation and benefits, quality of senior management, and an additional aspect where employees can provide separate

textual responses for Pros and Cons.[1] Appendix 1 shows an example of an employee review in Glassdoor.

Compared to other metrics often used in workplace culture and employee satisfaction studies, Glassdoor data offers distinct advantages. The data source directly reflects the sentiment of employees working within the firms, providing an insider's perspective on the work environment. Moreover, Glassdoor's reach and coverage extend beyond traditional data sources like 'Best Companies to Work For' lists. To construct our employee satisfaction variables at the firm-year level, we gather all available employee reviews on Glassdoor for the corresponding fiscal year. We apply a filtering process, excluding firm-year observations with fewer than 10 individual reviews to prevent undue influence from idiosyncratic employee opinions. We also collect data on employee status (current or previous employee) and employee work location. The arithmetic mean of these metrics for each firm-year results in seven distinct measures of employee satisfaction.

In our analyses, we address biases present in star ratings and overall ratings, recognizing their limitations in accurately representing employees' opinions. For employees' sentiments, we conduct sentiment analysis using textual reviews provided by employees. To ensure meaningful analysis, we initiate the process by removing common stop words, such as 'is', 'the', 'and', 'an', etc., through tokenization. This step aims to focus on significant words within the text. Our tokenization approach considers only nouns, adjectives, and verbs, as they are the most representative tokens in a document, as highlighted by Jung and Suh (2019). For sentiment classification, we leverage TextBlob, a Python library for Natural Language Processing (NLP), which utilizes the Natural Language Toolkit (NLTK) to categorize and classify sentiments expressed in employee reviews. TextBlob employs a lexicon-based approach to assign sentiment scores to each review based on the semantic orientation and intensity of words within the sentence. The sentiment score for each review is obtained by aggregating the scores of individual words. This pre-defined dictionary categorizes words as positive or negative. By assigning a polarity score between -1 and +1, where -1 indicates a negative sentiment, 0 signifies a neutral sentiment, and +1 represents a positive sentiment, TextBlob provides insight into the overall sentiment expressed in the review.

[1] Glassdoor employs technological checks and content screenings to ensure the authenticity of user-submitted reviews. Furthermore, Glassdoor actively encourages employees to share their experiences by requiring them to submit a review before gaining access to Glassdoor's job search function. This strategic approach diminishes the risk of polarized and extreme employee opinions, promoting a more balanced representation of the workforce's views.

In our study, gathering both financial and non-financial data involves a comprehensive approach. We tap into various data sources, including Compustat, CRSP, FactSet and Refinitiv. The integration of these datasets is achieved through a data-matching process, utilizing common identifiers like the RIC, company name, and location. The most challenging aspect of our data collection process revolves around matching the employee review data with these diverse databases. In instances where direct matches are unavailable, we conduct examinations of websites and locations. We even delve into CEO names as an additional point of reference to establish a proper match.

To evaluate a company's non-financial performance, we employ the social pillar score from Refinitiv. To assess a company's financial performance, two dimensions can be considered: market-based and accounting-based measures (Orlitzky et al., 2003). These dimensions provide insights into both productivity and external market perceptions.

Market-based measures offer valuable insights into how investors evaluate a company's potential for future profit generation (Luo and Bhattacharya, 2006; McGuire et al., 1988). These measures, such as price per share and Tobin's Q, are directly impacted by investor perceptions of the company's past, present, and future financial performance. The relationship between a company's intellectual capital and its financial performance has been examined using accounting-based metrics (Chen et al., 2005; Clarke et al., 2011). Accounting-based metrics provide insight into how productive employees are in terms of generating sales. Thus, intellectual capital impacts measurements like Return on Assets (ROA), Return on Equity (ROE), and Earnings Per Share (EPS).

Our initial sample consists of over two million reviews of 2,813 U.S.-listed firms from 2010 to 2022. We follow Huang et al. (2020) and retain reviews solely from current and former employees and exclude reviews from temporary employees. A typical Glassdoor review contains a review title, date posted, employee title, employee status (current vs. former), city and state of employment, years at the company, numerical ratings for overall, work-life balance, culture, compensation, and senior leadership, and text fields indicating the pros and cons of working at the company. Utilizing employee titles, we classify all evaluations into two categories: white- and blue-collar employees. Table 1 summarizes the number of reviews in each group. Approximately 41% of the population relates to blue-collar employees, while 59% are white-collar employees. Following Chemmanur et al. (2019), we demonstrate in Figure 2 that Glassdoor ratings are approximately normally distributed, suggesting that there is no response bias in the Glassdoor ratings data.

Table 2 presents summary statistics for the sample of employee reviews from Glassdoor aggregated at the firm level. Panel A reports the distribution and number of observations in each review category, on a scale of one to five with five being the top rating for white- and blue-collar employees. In our exploration of employee motivation, we employ the overall rating as a proxy for employee satisfaction. We derive the average scores of work-life balance, culture and values, diversity and inclusion, senior leadership, and career opportunities to construct the intrinsic variable.[2] Additionally, compensation and benefits are considered extrinsic variables in light of Ryan and Deci's (2000) definition. Panel A of Table 2 shows the average satisfaction scores for both white- and blue-collar employees in columns (1) and (2) respectively. The final column presents the results of the T-test, indicating significant differences in satisfaction scores. These differences align with previous research by Hackman and Oldham (1980) and Humphrey et al. (2007), supporting the notion that white-collar employees generally report higher satisfaction levels than their blue-collar counterparts. This observation is further illustrated in Figure 3.

In Panel B, the review sample is merged with financial and non-financial variables from CRSP, financial statement information from Compustat, and sustainability information from Refinitiv. The review sample covers 2010 to 2022 and the merged sample contains 15,574 firm-year level observations for 2,506 unique firms.[3] Panel B reports the mean, median, standard deviation, and the first, median, and third quartiles for each of the firm characteristics.

The average Tobin's Q for the reviewed firms is 1.86, indicating that, on average, the market value of these companies exceeds their book value. The standard deviation of 2.94 suggests that there is considerable variability in Tobin's Q across the sample, with some firms having significantly higher or lower market values relative to their book values. For ROA, the average is 1.08%, with a relatively high standard deviation of 15.34%, implying substantial variability in profitability among the firms in the sample. Similarly, the average ROE is 9.47%, but the standard deviation of 29.48% indicates wide disparities in profitability performance among the reviewed firms. The mean EPS is 2.94, and the standard deviation of 4.29. The social score, which measures non-financial performance related to social responsibility or impact, has

[2] Distinguishing between intrinsic and extrinsic factors can be complex. To prevent errors, we classify compensation and benefits as extrinsic factors, given their clear financial nature. All other factors are categorized as intrinsic, as they do not directly involve financial rewards or benefits. This approach ensures clarity and consistency in identifying the motivational influences on employee behavior.

[3] The original dataset included 27,414 firm-year observations. However, for consistency, we limited our analysis to firms that were reviewed by both blue- and white-collar employees. This ensures uniformity in the data and allowed for meaningful comparisons across different employee groups.

an average of 48.04. The standard deviation of 21.54 suggests variability in social scores among the reviewed firms, indicating differences in their social responsibility practices or impacts. The average dividend payout is 28.61%, with the standard deviation of 42.46%. The average size of the firms is 7.82. The standard deviation of 2.52 indicates variability in the size of the firms, with some being significantly larger or smaller than the average. The book-to-market value has an average of 49.14%, and a standard deviation of 42.55%. Detailed definitions for employee rating variables and firm-level characteristics are reported in Table 1A in the appendix.

The pairwise correlation, presented in Table 3 for white- and blue-collar employees, provides insight into the relationships between various satisfaction and motivation variables with the overall Workforce Score. Despite the weak correlations, all are statistically significant with *p*-values less than 0. 01. This means that the relationships observed are unlikely to be due to random chance, given the large sample size of 15,574 observations. both intrinsic and extrinsic motivation, as well as sentiment and overall rating among white - and blue-collar employees, are related to the workforce score. This suggests a consistent pattern in terms of overall satisfaction, indicating that both white- and blue-collar employees follow similar trends. This consistency in correlation patterns across employee types implies that the colour of the collar does not significantly impact employee perceptions, as satisfaction levels and motivational factors exhibit similarities across both employee types.

Our first hypothesis predicts that employee job satisfaction has a positive relationship with the organization's financial and non-financial performance, but this relationship is weaker for blue-collar employees. We estimate the following regression model for white- and blue-collar employees to capture such differences:

$$PERF_{it} = \beta_0 + \beta_1 OR\_W_{it} + \beta_2 OR\_B_{it} + \beta_3 DIV_{it} + \beta_4 LEV_{it} + \beta_5 SIZE_{it} + \beta_6 BCW_{it} + \beta_7 BTM_{it} + Firm\ FE + Year\ FE + \varepsilon_{it} \quad (1)$$

Where $PERF_{it}$ is the dependent variable representing one of the alternatives of financial and non-financial performance for firm *i* in year *t*. The performance variables considered in this context include $Tobin's\ Q_{it}$, ROA_{it} , ROE_{it} , EPS_{it}, and $Social\ Score_{it}$, which respectively correspond to Tobin's Q, return on average assets, return on average equity, earnings per share, and social score. OR_W_{it} and OR_B_{it} are the main independent variables that represent the mean of employees score as a proxy of employee satisfaction for white- and blue-collar employees for firm *i* in year *t.* We also control for dividend payout (DIV_{it}), leverage (LEV_{it}),

log of total assets ($SIZE_{it}$), inclusion in the best companies to work for list (BCW_{it}), and book to market value (BTM_{it}) for firm *i* in year *t.* The coefficient of interest in this model is $\beta_1$and β_2, which captures the relationship between overall satisfaction among white- and blue-collar employees and financial and non-financial performance.

The second hypothesis propose that the association between white- and blue-collar employees and organizational performance varies between labour-intensive and non-labour-intensive industries. Using model (1), we proceed to conduct regressions for both industry types.

The next hypothesis examines whether intrinsic and extrinsic factors have a positive relationship with a company's effectiveness of job satisfaction. We utilize the following specifications as our baseline model to investigate these relationships across white- and blue-collar employees:

$$WFS_{it} = \beta_0 + \beta_1 Intrinsic\_W_{it} + \beta_2 Intrinsic\_B_{it} + Firm\ FE + Year\ FE + \varepsilon_{it} \quad (2)$$

$$WFS_{it} = \beta_0 + \beta_1 Extrinsic\_W_{it} + \beta_2 Extrinsic\_B_{it} + Firm\ FE + Year\ FE + \varepsilon_{it} \quad (3)$$

Where $WFS_{it}$is the dependent variable that represents the workforce score of firm *i* in year *t.* $Intrinsic\_W_{it}$ and $Intrinsic\_B_{it}$ are the independent variables that represent the mean of employees' score for intrinsic motivators including work-life balance, culture and values, diversity and inclusion, career development and opportunities for white- and blue-collar employees. $Extrinsic\_W_{it}$ and $Extrinsic\_B_{it}$ in the third model represent extrinsic factors including compensation and benefit among white- and blue-collar employees, for firm *i* in year *t.*

IV. RESULTS

4.1. Employee satisfaction for different groups and organizational performance

In Table 4, we present the estimation results of model (1) for both white- and blue-collar employees. In the context of $Tobin's\ Q$ as the dependent variable in column (1), the coefficient of white-collar employee's overall satisfaction is estimated at 0.075, with a standard error of 0.027 (*p*-value < 0.001). This indicates that for each unit increase in OR_W , $Tobin's\ Q$ also increases by 0.075 units. Considering the magnitude of the effect, a one-standard-deviation

increase in OR_W corresponds to approximately a 1.97% standard deviation increase in $Tobin's\ Q$.[4] This implies that firms with satisfied white-collar employees may experience higher market valuation, potentially due to increased productivity, innovation, or other factors that positively influence firm performance. On the other hand, for blue-collar employees, the coefficient for overall satisfaction is 0.024, with a standard error of 0.017 which is insignificant. This indicates a lack of relationship between blue-collar overall satisfaction and $Tobin's\ Q$. In column (2) we consider ROA as a dependent variable, the regression analysis reveals positive associations between overall satisfaction and ROA for blue-collar employees, with coefficients of 0.155 ($p < 0.05$). This implies that higher levels of overall satisfaction associated with higher ROA for blue-collar employees. Considering the magnitude of the effect, a one-standard-deviation increase in OR_B corresponds to approximately a 0.94 percentage point increase in ROA. This indicates that satisfied blue-collar workers contribute positively to the profitability of the firm, possibly through improved efficiency, quality of work, or cost-effectiveness. Conversely, the coefficients of OR_W is statistically insignificant, this implies that changes in overall satisfaction levels among white-collar employees do not have a discernible impact on ROA, according to the estimation results. The estimation results for columns (3), (4), and (5) consider ROE, EPS and $Social\ score$ as dependent variables, respectively. In all estimations, the results reveal no statistically significant relationship between the overall satisfaction of both white- and blue-collar employees and the dependent variables.

In Table 5, we present the estimation results of model (1) for both white- and blue-collar employees using different variable as a representative of overall employee satisfaction score. We explore employees' sentiment as a proxy for job satisfaction, and the results align with those in Table 4 when the dependent variable is $Tobin's\ Q$. In column (1) the coefficient of sentiment for white-collar employees is 0.382 and statistically significant ($p < 0.05$). This indicates that higher sentiment of white-collar employees is associated with increased $Tobin's\ Q$, and a one-standard-deviation increase in $Sentiment\_W$ corresponds to approximately a 1.65% standard deviation increase in $Tobin's\ Q$. Similarly, for ROA as the dependent variable in column (2), the coefficient of white-collar sentiment is 0.559 and significant at 10% level. This indicates that for each unit increase in $Sentiment\_W$, ROA also

[4] We compute this, and all upcoming, economic magnitudes in the following manner: First, we compute the effect of a one standard deviation increase in independent variable. We do so by multiplying the respective coefficient estimates with the unit increase reflecting a one standard deviation increase in independent variable. Subsequently, we divide this number by the standard deviation of dependent variable, as reflected in Table 2.

increases by 0.559 units. In terms of magnitude, a one-standard-deviation increase in $Sentiment\_W$ corresponds to a 0.98% standard deviation increase in ROA. On the other hand the results in column (1) and (2) shows a positive but insignificant coefficient for blue-collar sentiment. The estimation results for columns (3), (4), and (5) consider ROE, EPS and $Social\ score$ as dependent variables, respectively. In all estimations, the results reveal no statistically significant relationship between the sentiment of both white- and blue-collar employees and the dependent variables.

Our findings support hypothesis ***H1A***, indicating that job satisfaction among both white- and blue-collar employees is positively associated with financial performance and these relationship is more pronounced for white-collar employees. These findings suggest that higher overall satisfaction levels among white-collar employees are associated with increased market valuation, as indicated by $Tobin's\ Q$. This implies that firms with satisfied white-collar employees may benefit from enhanced productivity, innovation, and overall firm performance. Conversely, the positive association between overall satisfaction and ROA among blue-collar employees suggests that job satisfaction can contribute to profitability, indicating that satisfied blue-collar workers may positively impact firm profitability through improved efficiency and quality of work.

4.2. Employee satisfaction and organisational performance through different employees groups and industries

In Panel A for labour-intensive industries[5], the regression results indicate that the coefficient for OR_W on $Tobin's\ Q$ is statistically significant at the 5% level, suggesting that a one-unit increase in OR_W is associated with an increase in $Tobin's\ Q$ by 0.085 units. Considering the magnitude of the effect, a one-standard-deviation increase in OR_W corresponds to approximately a 2.7% standard deviation increase in $Tobin's\ Q$. However, OR_W does not have statistically significant effects on ROA, ROE, EPS, or the $Social\ score$. In addition, the coefficient for OR_B is statistically significant at the 1% level for ROA and ROE, indicating that a one-unit increase in OR_B is associated with an increase of 0.302 units in ROA and 0.663 units in ROE. In terms of magnitude, a one-standard-deviation increase

[5] In our analysis, we adopt the Fama-French 12 industry group classification, identifying labor-intensive industries as including consumer durable and non-durable goods, oil, gas, and coal extraction and products, healthcare, medical equipment, drugs, manufacturing, wholesale, retail, and some services. Conversely, non-labor-intensive industries encompass chemicals and allied products, finance, telephone and television transmission, and utilities.

in OR_B corresponds to approximately a 1.5% and 1.7% standard deviation increase in ROA and ROE respectively. On the other hand, OR_B does not have statistically significant effects on $Tobin's\ Q$, EPS, or $Social\ score$.

In Panel B for non-labour-intensive, the regression results shows that the OR_W does not have statistically significant effects on any of the dependent variables. On the other hand, the coefficient for OR_B is statistically significant at the 10% level for ROA and ROE, indicating a negative effect. Specifically, a one-unit increase in OR_B is associated with a decrease of 0.135 units in ROA and 0.560 units in ROE. In terms of magnitude, a one-standard-deviation increase in OR_B corresponds to approximately a 0.7% and 1.5% standard deviation decrease in ROA and ROE respectively. Moreover, OR_B does not have statistically significant effects on $Tobin's\ Q$, EPS, or $Social\ score$.

The contrasting findings between labour-intensive and non-labour-intensive industries underscore the nuanced nature of organizational strategies in driving financial performance and market competitiveness. In labour-intensive industries, where workforce optimization and organizational flexibility play pivotal roles, companies should prioritize investments in human capital management and agile organizational structures to enhance productivity, profitability, and market valuation. Conversely, in non-labour-intensive sectors, where technological innovation and market responsiveness are paramount, firms should focus on leveraging technology, optimizing capital allocation, and cultivating adaptability to navigate market uncertainties and sustain long-term profitability. These insights highlight the importance of tailoring organizational strategies to the unique dynamics of each industry to effectively address challenges and capitalize on opportunities for growth and success.

Our findings support hypothesis ***H1B***, indicating that the relationship between employee job satisfaction and organizational performance through white- and blue-collar employees varies significantly between industries characterized by high labor intensity and those with lower labour intensity.

4.3. Factor impact on overall satisfaction for different groups

Table 7 presents the outcomes of our estimations for model (2) for white- and blue-collar employees. The regression analysis in column (1) shows a significant positive coefficient of 0.637 ($p < 0.05$) for the white-collar intrinsic factors, indicating that a one standard deviation increase in $Intrinsic\_W$ corresponds to a 2.05% standard deviation increase in WFS. Similarly, a significant positive coefficient of 0.412 ($p < 0.1$) for the blue-collar intrinsic factors suggests

that a one standard deviation increase in $Intrinsic\_W$ leads to a 1.11% standard deviation increase in WFS. Additionally, a statistically insignificant positive coefficient observed for extrinsic factors among both employee groups in column (2). Additionally, in column (3), we analyze intrinsic and extrinsic factors for both white- and blue-collar employees within a single regression, and the outcomes align with those observed in columns (1) and (2). Our findings are align with the hypothesis of ***H2B*** and ***H2D*** emphasizes the crucial role of intrinsic factors compared to extrinsic factors in shaping job satisfaction for white-collar. However, our results contradict the hypotheses of ***H2B*** and ***H2C***, indicating the limited impact of extrinsic factors on job satisfaction among blue-collar employees. The significant positive coefficients linked to intrinsic factors, such as job fulfillment, growth opportunities, and recognition, indicate that enhancing these aspects can lead to substantial improvements in employee job satisfaction in both categories. This suggests that factors related to personal growth, job significance, and acknowledgment of achievements play a more significant role in driving job satisfaction than traditional extrinsic factors like salary and benefits. The limited impact of extrinsic factors on job satisfaction implies that monetary rewards and tangible perks may not be as effective in enhancing overall satisfaction levels. Therefore, the emphasis on intrinsic motivators becomes crucial for organizations aiming to create a work environment that fosters engagement and fulfillment, ultimately boosting job satisfaction and workforce performance for employees in diverse roles, including both white-collar and blue-collar workers. These findings highlight the importance for HRM to devise a tailored strategy to motivate employees, as the drivers of motivation appear to be similar between white- and blue-collar workers.

V. CONCLUSION

Our findings from more than two million Glassdoor employee ratings from 2010 to 2022, focusing on publicly traded organizations in the United States, show that white-collar employees regularly have a higher degree of satisfaction than their blue-collar co-workers. The examination of employee satisfaction and its impact on performance metrics reveals distinct patterns between white- and blue-collar employees regarding their satisfaction and its impact on financial performance metrics. For Tobin's Q, white-collar satisfaction exhibits a significant positive relationship, suggesting that market value the satisfaction of this group. Moving to ROA, blue-collar satisfaction demonstrates a positive association, this indicate that blue-collar employees satisfaction positively contributes to firm profitability. In general, results show that

employee satisfaction positively correlates with financial performance indicators such as Tobin's Q and ROA for both groups, consistent with human capital theories that position employees as valuable intangible assets that contribute to financial outcomes and the overall trend emphasizes the importance of employee satisfaction in driving organizational success. In addition, these findings are more pronounced in labour-intensive industries. While, in non-labour-intensive industries, the analysis reveals a stark contrast in the impact of employee satisfaction on performance metrics compared to labour-intensive sectors. Our results exhibit a divergent perspective on employee value and organizational strategy. The results show that in non-labour-intensive industries employee satisfaction exhibits a statistically significant negative impact on both ROA and ROE among blue-collar employees, align with traditional theories perceive employees more as a cost.

In our analysis, we do not observe a significant relationship between both white- and blue-collar employee satisfaction and non-financial performance of firms. Despite investigating various factors and conducting thorough analyses, our results indicate that neither white-collar nor blue-collar employees appear to have a significant impact on the non-financial performance of the firms.

Furthermore, we conclude that both white- and blue-collar employees respond similarly to intrinsic and extrinsic motivators and satisfaction criteria, both groups prioritize intrinsic factors over extrinsic ones. our study finds that intrinsic factors, such as job fulfillment, growth opportunities, and recognition, are more important for job satisfaction than extrinsic factors like salary and benefits for both white- and blue-collar employees. This means that employees in both groups are more motivated by the nature and content of their work than by simply getting paid more.

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Figures

Figure 1. Normality test for satisfaction variables

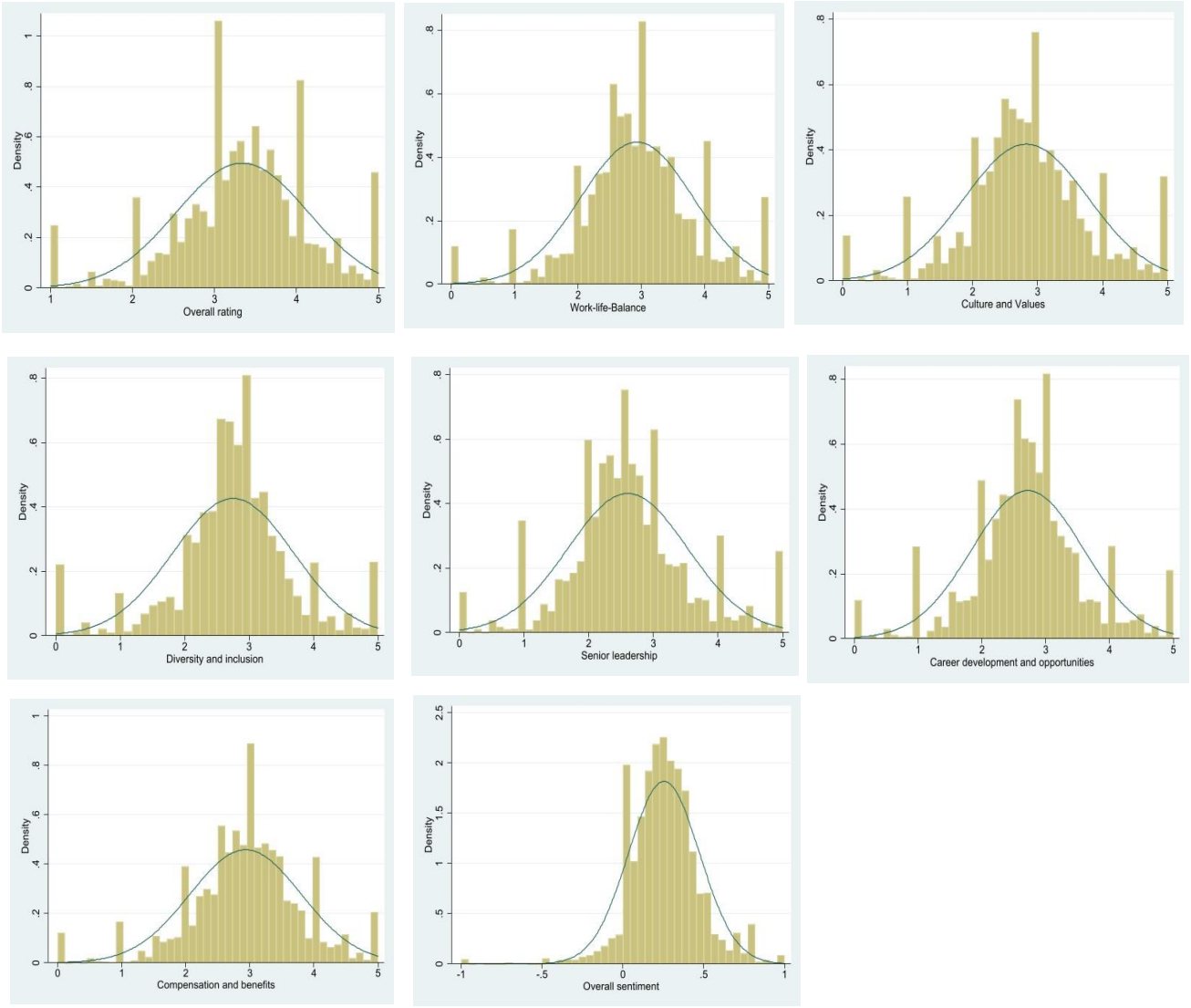


Figure 2. Number of reviews for white- and blue-collar employees over time

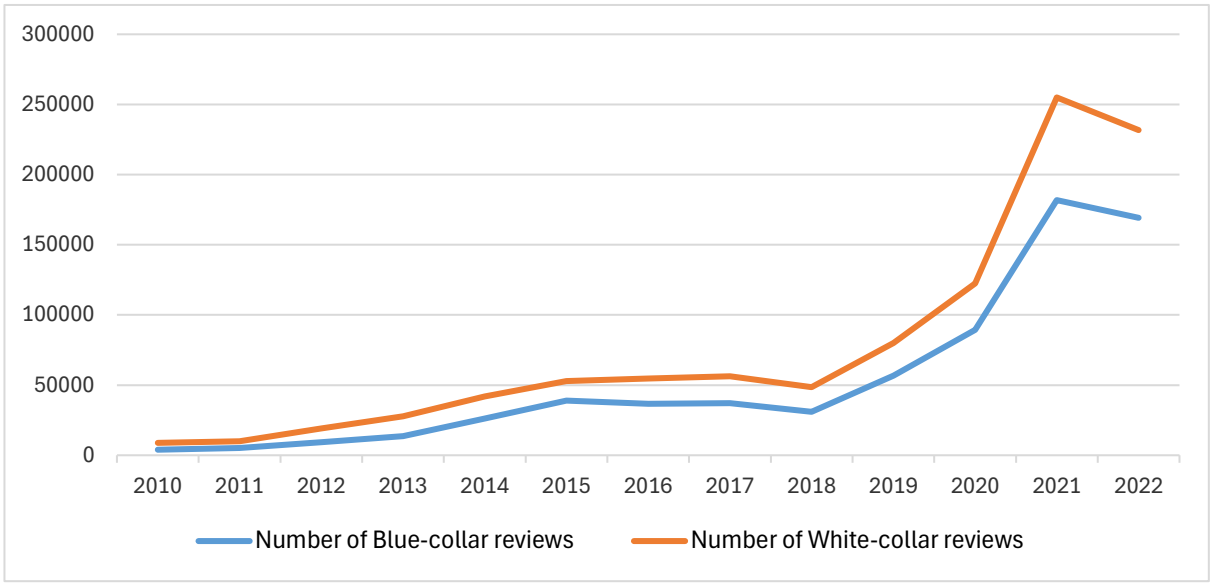
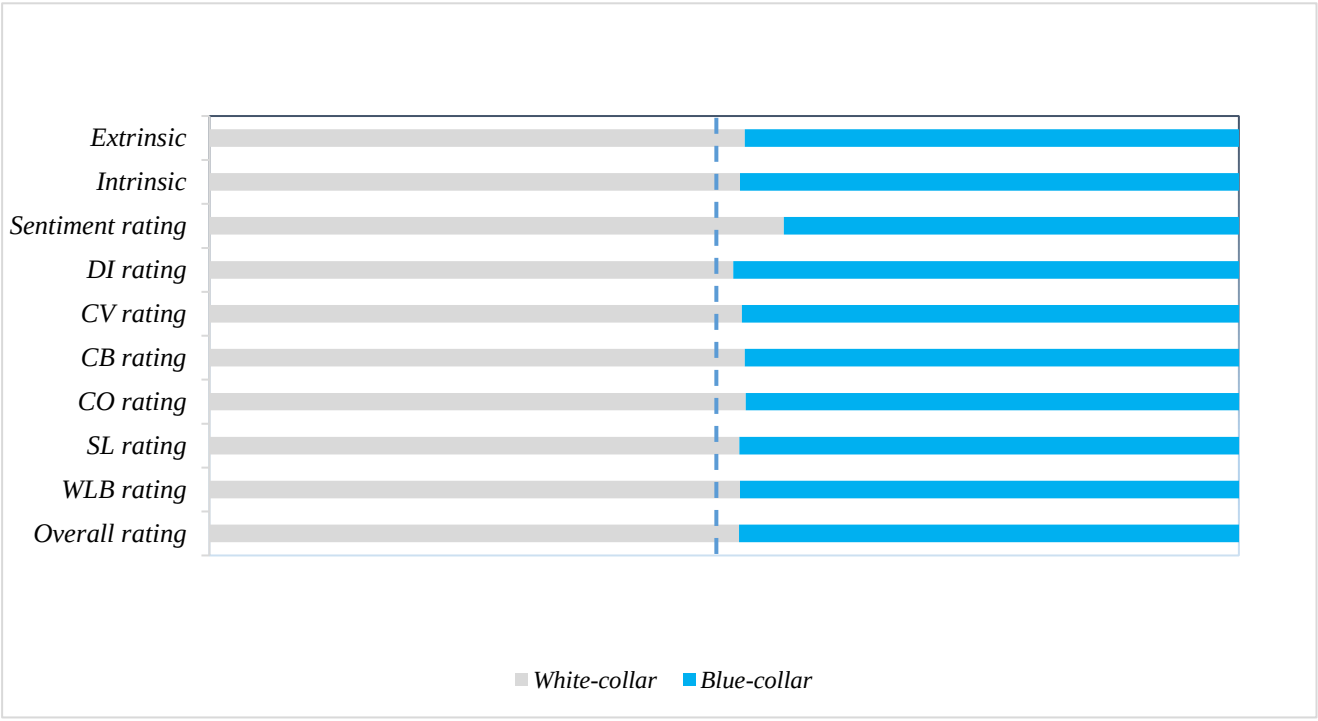


Figure 3. Average score for all available ratings for white- and blue-collar employees



Tables

Table 1. Tabulation of total number of reviews per type of employee

	Freq.	Percent	Cum.
White-collar	1,009,209	59.07	59.07
Blue-collar	699,242	40.93	100.00
Total	1,708,451	100.00	

Note: This table reports the number of reviews for white- and blue-collar employees from 2010 to 2022.

Table 2. Summary statistics

Panel A. Summary statistics for white- and blue-collar employees

	White-collar (1)			Blue- collar (2)		T-test (1)-(2)	
	N	Mean	SD	Mean	SD	Diff	
Overall rating	15,574	3.40	0.78	3.32	0.94	0.08	***
Sentiment rating	15,574	0.27	0.21	0.24	0.27	0.03	***
Intrinsic rating	15,441	3.26	0.73	3.16	0.87	0.10	***
Extrinsic rating	15,429	3.42	0.72	3.34	0.89	0.08	***

Panel B. Summary statistics at firm-level

	N	Mean	SD	Min	Max	p25	Median	p75
Tobin's Q	14,046	1.86	2.94	0	27.59	0	.94	7.01
ROA(%)	12,930	1.08	15.34	-121.19	31.97	-26.06	3.51	16.77
ROE(%)	11,881	9.47	29.48	-121.1	185.08	-44.03	10.95	48.35
EPS	12,041	2.94	4.29	-12.5	36.4	-1.38	2.1	10.06
Workforce Score	10,766	47.45	26.92	.19	99.88	7.18	45.49	93.42
Social Score	10,709	48.4	21.54	.44	98.12	16.28	46.66	85.61
Dividend payout(%)	10,122	28.61	42.46	0	381.38	0	16.95	100
Leverage	11,847	1.29	2.32	0	26.08	0	.65	4.64
Size	14,188	7.82	2.52	-12.72	15.14	3.76	7.96	11.48
BTM(%)	12,116	49.14	42.55	0	361	5.96	38.01	125.24
BCW	15,574	.02	0.16	0	1	0	0	0

Note: This table provides descriptive statistics for the variables used in our analysis over fiscal years 2010 to 2022. Panel A reports summary statistics of the ratings for white- and blue-collar employees separately, while Panel B provides summary statistics at the firm-level. All variables are defined in the Appendix 1A.

Table 3. Pairwise correlations

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) WFS	1.00								
(2) OR_W	0.14	1.00							
	(0.00)								
(3) OR_B	0.14	0.31	1.00						
	(0.00)	(0.00)							
(4) Sentiment_W	0.12	0.60	0.23	1.00					
	(0.00)	(0.00)	(0.00)						
(5) Sentiment_B	0.07	0.20	0.54	0.20	1.00				
	(0.00)	(0.00)	(0.00)	(0.00)					
(6) Intrinsic_W	0.14	0.91	0.31	0.59	0.21	1.00			
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)				
(7) Intrinsic_B	0.13	0.32	0.88	0.23	0.53	0.34	1.00		
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)			
(8) Extrinsic_W	0.18	0.71	0.27	0.47	0.18	0.72	0.26	1.00	
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)		
(9) Extrinsic_B	0.15	0.29	0.68	0.21	0.41	0.28	0.69	0.37	1.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	

Note: This table reports the pairwise correlations of satisfaction variables for 15,574 observations over fiscal years 2010 to 2022. Parentheses denote the level of significance which is less than 0.01 in all cases. *WFS* which represents workforce score, *OR_W* is the overall job satisfaction score for white-collar employees, *OR_B* is the overall job satisfaction score for blue-collar employees, *Sentiment_W* is the overall job satisfaction score for white-collar employees, *Sentiment_B* is the overall job satisfaction score for blue-collar employees, *Intrinsic_W* is the overall intrinsic score for white-collar employees, *Intrinsic_B* is the overall intrinsic score for blue-collar employees, *Extrinsic_W* is the overall extrinsic score for white-collar employees, *Extrinsic _B* is the overall extrinsic score for blue-collar employees.

Table 4. The relationship between white-and blue-collar satisfaction and organizational performance

	(1)	(2)	(3)	(4)	(5)
VARIABLES	*Tobin's Q*	*ROA*	*ROE*	*EPS*	*Social Score*
OR_W	0.075***	0.095	0.142	-0.052	0.052
	(0.027)	(0.092)	(0.306)	(0.048)	(0.250)
OR_B	0.024	0.155**	0.240	0.015	0.264
	(0.017)	(0.069)	(0.204)	(0.035)	(0.173)
Dividend payout	-0.001***	-0.023***	-0.066***	-0.003***	0.011**
	(0.000)	(0.002)	(0.007)	(0.001)	(0.005)
Leverage	-0.012	-0.161***	3.277***	-0.061	-0.205*
	(0.014)	(0.054)	(0.477)	(0.037)	(0.121)
BTM	-0.009***	-0.048***	-0.133***	-0.030***	-0.021**
	(0.001)	(0.005)	(0.016)	(0.003)	(0.010)
Size	-0.738***	-1.869***	-6.537***	1.835***	3.528***
	(0.106)	(0.313)	(0.975)	(0.264)	(0.780)
BCW	0.110	-0.121	-5.327*	0.248	2.579
	(0.259)	(0.613)	(3.096)	(0.401)	(1.733)
Constant	7.585***	24.467***	75.028***	-11.645***	9.033
	(0.858)	(2.534)	(7.918)	(2.158)	(6.694)
Observations	8,676	8,572	8,526	8,143	7,509
R-squared	0.127	0.133	0.154	0.306	0.371
Year FE	YES	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES	YES

Note: This table presents the result from estimating Equation (1). This table presents the association between the overall satisfaction for both white- and blue-collar employees and organizational performance. Standard errors are clustered by firm and year and *t* statistics are in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively. Dependent variables are *Tobin's Q, ROA, ROE, EPS* and *Social Score* in columns (1), (2), (3) and (4), respectively. *OR_W* is the overall job satisfaction score for white-collar employees, *OR_B* is the overall job satisfaction score for blue-collar employees, *Dividend payout* is the debt to equity ratio *, Leverage* is the debt to equity ratio*, BTM* is Book to market value *,Size* is the natural logarithm of total asset *, BCW* is dummy variable takes 1 if the company is listed in best place to work for in US. All variables are defined in detail in Appendix 1A.

Table 5. The relationship between white-and blue-collar satisfaction and organizational performance

	(1)	(2)	(3)	(4)	(5)
VARIABLES	*Tobin's Q*	*ROA*	*ROE*	*EPS*	*Social Score*
Sentiment_W	0.179**	0.559*	1.023	0.050	0.165
	(0.080)	(0.318)	(1.064)	(0.166)	(0.906)
Sentiment_B	0.062	0.003	0.093	0.130	0.648
	(0.047)	(0.209)	(0.667)	(0.105)	(0.546)
Dividend payout	-0.001***	-0.023***	-0.066***	-0.003***	0.011**
	(0.000)	(0.002)	(0.007)	(0.001)	(0.005)
Leverage	-0.012	-0.161***	3.277***	-0.060	-0.206*
	(0.015)	(0.055)	(0.476)	(0.037)	(0.121)
BTM	-0.009***	-0.049***	-0.133***	-0.030***	-0.021**
	(0.001)	(0.005)	(0.016)	(0.003)	(0.010)
Size	-0.739***	-1.870***	-6.541***	1.834***	3.527***
	(0.105)	(0.314)	(0.976)	(0.264)	(0.780)
BCW	0.115	-0.108	-5.317*	0.239	2.590
	(0.260)	(0.615)	(3.099)	(0.400)	(1.735)
Constant	7.836***	25.097***	75.950***	-11.791***	9.812
	(0.864)	(2.522)	(7.883)	(2.195)	(6.594)
Observations	8,676	8,572	8,526	8,143	7,509
R-squared	0.126	0.132	0.154	0.306	0.371
Year FE	YES	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES	YES

Note: This table presents the result from estimating equations (1). This table presents the association between the overall satisfaction for both white- and blue-collar employees and organizational performance. Standard errors are clustered by firm and year and *t* statistics are in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively. Dependent variables are *Tobin's Q, ROA, ROE, EPS* and *Social Score* in columns (1),(2),(3) and (4) respectively. *Sentiment_W* is the overall job satisfaction score for white-collar employees, *Sentiment_B* is the overall job satisfaction score for blue-collar employees, *Dividend payout* is the debt to equity ratio , *Leverage* is the debt to equity ratio, *BTM* is Book to market value ,*Size* is the natural logarithm of total asset , *BCW* is dummy variable takes 1 if the company is listed in best place to work for in US. All variables are defined in detail in Appendix 1A.

Table 6. The relationship between white-and blue-collar satisfaction and organizational performance in high and low labour-intensive industries.

VARIABLES	(1) *Tobin's Q*	(2) *ROA*	(3) *ROE*	(4) *EPS*	(5) *Social Score*
Panel A. Labour-intensive industries					
OR_W	0.085**	0.075	0.032	-0.085	0.227
	(0.036)	(0.118)	(0.394)	(0.060)	(0.298)
OR_B	0.026	0.302***	0.663**	0.039	0.305
	(0.024)	(0.093)	(0.263)	(0.045)	(0.214)
Constant	8.312***	25.296***	72.202***	-13.103***	6.975
	(1.002)	(3.040)	(8.862)	(2.452)	(7.350)
Observations	6,472	6,387	6,347	6,146	5,571
R-squared	0.151	0.156	0.166	0.314	0.372
Year FE	YES	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES	YES
Controls	YES	YES	YES	YES	YES
Panel B. Non-labour-intensive industries					
OR_W	0.027	0.085	0.334	0.048	-0.426
	(0.020)	(0.098)	(0.331)	(0.074)	(0.444)
OR_B	0.020	-0.135*	-0.560*	-0.031	0.168
	(0.015)	(0.071)	(0.296)	(0.047)	(0.291)
Constant	5.417***	21.809***	83.876***	-5.465	17.268
	(1.336)	(3.654)	(16.937)	(3.590)	(15.127)
Observations	2,204	2,185	2,179	1,997	1,938
R-squared	0.092	0.119	0.153	0.320	0.381
Year FE	YES	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES	YES
Controls	YES	YES	YES	YES	YES

Note: This table presents the result from estimating equations (1). This table presents the association between the overall satisfaction for both white- and blue-collar employees and organizational performance. Standard errors are clustered by firm and year and *t* statistics are in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively. Dependent variables are *Tobin's Q, ROA, ROE, EPS* and *Social Score* in columns (1),(2),(3) and (4) respectively. *OR_W* is the overall job satisfaction score for white-collar employees, *OR_B* is the overall job satisfaction score for blue-collar employees, *Dividend payout* is the debt to equity ratio , *Leverage* is the debt to equity ratio, *BTM* is Book to market value ,*Size* is the natural logarithm of total asset , *BCW* is dummy variable takes 1 if the company is listed in best place to work for in US. All variables are defined in detail in Appendix 1A.

Table 7. The relationship between satisfaction components and white- and blue-collar employee satisfaction

	(1)	(2)	(3)
VARIABLES	*WFS*	*WFS*	*WFS*
Intrinsic_W	0.637**		0.885**
	(0.314)		(0.420)
Intrinsic_B	0.412*		0.688**
	(0.212)		(0.295)
Extrinsic_W		0.284	-0.339
		(0.346)	(0.460)
Extrinsic_B		0.020	-0.451
		(0.202)	(0.283)
Constant	35.742***	37.912***	36.752***
	(1.575)	(1.665)	(1.717)
Observations	10,513	10,495	10,494
R-squared	0.176	0.176	0.177
Year FE	YES	YES	YES
Firm FE	YES	YES	YES

Note: This table presents the result from estimating equations (2) and (3). This table presents the association between the motivation facets of employees and workforce score for both white- and blue-collar employees. Standard errors are clustered by firm and year and t statistics are in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively. Dependent variable is *WFS* which represents workforce score in columns (1), (2) and (3), respectively. *Intrinsic_W* is the overall intrinsic score for white-collar employees, *Intrinsic_B* is the overall intrinsic score for blue-collar employees, *Extrinsic_W* is the overall extrinsic score for white-collar employees, *Extrinsic _B* is the overall extrinsic score for blue-collar employees. All variables are defined in detail in Appendix 1A.

Appendix

Appendix 1. An example of an employee review on Glassdoor platform.

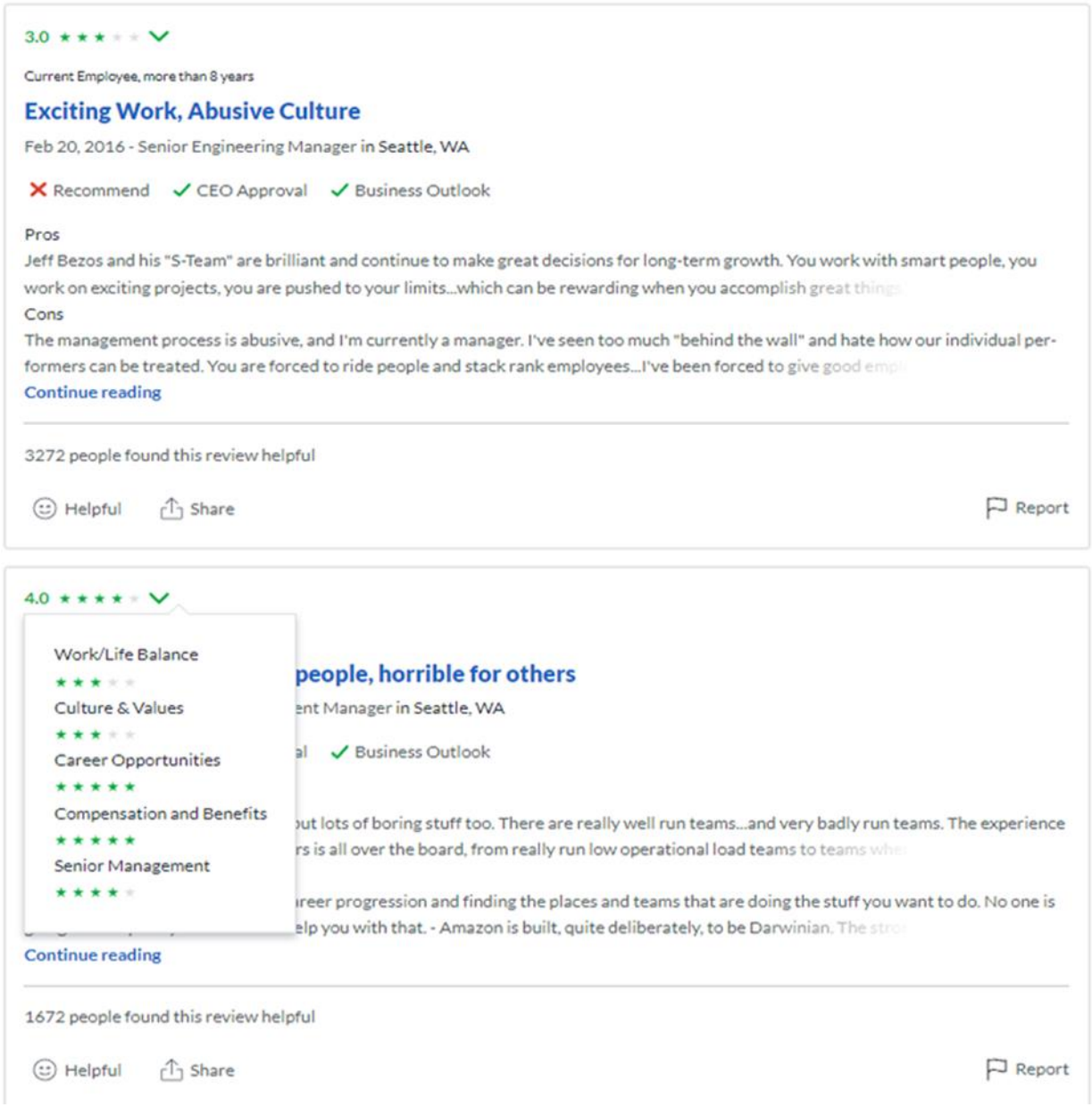


Table 1A. Variable definitions.

Employee satisfaction ratings	
OR_W	White-collar employee's overall rating of employer ranked on a five-point scal with 5 being very satisfied.
OR_B	Blue-collar employee's overall rating of employer ranked on a five-point scal with 5 being very satisfied.
Intrinsic_W	White-collar employees' intrinsic motivators consist of the mean of work-life balance, culture and values, career opportunity, senior leadership, and diversity and inclusion.
Intrinsic_B	Blue-collar employees' intrinsic motivators consist of the mean of work-life balance, culture and values, career opportunity, senior leadership, and diversity and inclusion.
Extrinsic_W	White-collar employees' extrinsic motivator consist of the compensation and benefit score.
Extrinsic_B	Blue-collar employees' extrinsic motivator consist of the compensation and benefit score.
Sentiment_W	The sentiment index of White-collar employees based on textual reviews in the summary section about the employer where -1 is the negative sentiment, 0 neutral, and 1 is a positive sentiment.
Sentiment_B	The sentiment index of Blue-collar employees based on textual reviews in the summary section about the employer where -1 is the negative sentiment, 0 neutral, and 1 is a positive sentiment.
Dependent variables	
Tobin's Q	The ratio that compares the market value of a firm to the replacement cost of its tangible assets.
ROA	Return on Average Assets: This is calculated as net income divided by the two fiscal period average of total assets.
ROE(%)	Return on Average Equity: This is calculated as net income divided by the two fiscal period average of total shareholders' equity , multiplied by 100.
EPS	Earnings per share: This is calculated as net income divided by common shares.
Social Score	Social Pillar Score is the weighted average relative rating of a company based on the reported social information and the resulting four social category scores.
Workforce Score	The workforce score measures a company's effectiveness in terms of providing job satisfaction, a healthy and safe workplace, maintaining diversity and equal opportunities, and development opportunities for its workforce.
Control variables	
Dividend payout(%)	Dividend Payout Ratio: This is calculated as dividends per share divided by earnings per share,multiplied by 100.
Leverage(%)	This is calculated as total debt divided by total shareholders' equity, multiplied by 100.
Size	Total assets measured at the end of the fiscal year. We use the natural log of this quantity in our regression analysis.

BCW	A dummy variable that equals 1 if firm is included in the list of best company to work for and 0 otherwise.
BTM	Book value of equity divided by market value of equity.

Note: This table contains definitions for all variables employed in our empirical analysis.

Table 2A. Tabulation of year

	Freq.	Percent	Cum.
2010	435	2.79	2.79
2011	497	3.19	5.98
2012	646	4.15	10.13
2013	773	4.96	15.10
2014	980	6.29	21.39
2015	1,153	7.40	28.79
2016	1,196	7.68	36.47
2017	1,276	8.19	44.66
2018	1,282	8.23	52.90
2019	1,543	9.91	62.80
2020	1,709	10.97	73.78
2021	2,045	13.13	86.91
2022	2,039	13.09	100.00
Total	15,574	100.00	

Note: This table presents the numbers of firms in each year. The sample period is from 2010 to 2022.

Table 3A. Fama–French 12 industry groups

	Freq.	Percent	Cum.
Business equipment	3,057	19.63	19.63
Chemicals and allied products	380	2.44	22.07
Consumer durables	447	2.87	24.94
Oil, gas and coal extraction and products	357	2.29	27.23
Healthcare, medical equipment and drugs	1,308	8.40	35.63
Manufacturing	1,509	9.69	45.32
Finance	2,139	13.73	59.05
Consumer nondurables	898	5.77	64.82
Other	2,682	17.22	82.04
Wholesale, retail and some services	1,998	12.83	94.87
Telephone and television transmission	340	2.18	97.05
Utilities	459	2.95	100.00
Total	15,574	100.00	

Note: This table presents the numbers of firms in the industries. The sample period is from 2010 to 2022.

Table 4A. List of Blue-collar job

Accessioned	Doorman	Manpower Contractor	Table game dealer
Aircraft mechanic	Drafter	Material Handler	Technical Support
Animal Care	Driver	Meat Grinder	Technician
Apparel	Electrician	Mechanic	Telephone Interviewer
Appreciation	Escort	Merchandiser	Temp worker
Assembler	Facilities maintenance	Millwright	Transporter
Asset protection	Farmer	Mud Logger	Travel Consultant
Assistant	Feeder	Night Shift	Truck driver
Automation testing profile	Firefighter	On-call	Underground Coal Miner
Backoffice	Fisherman	Operator	Valet
Bagger	Flight Attendant	Order puller	Vehicle Condition Assessor
Baker Hughes	Foreman	Outfitter	Vender
Barback	Forklift	Package handler	Waiter
Barista	Front Desk Receptionist	Packer	Warehouse
Barman	Fuel attendant	Patient Sitter	Welder
Bartender	Fulfillment	Personal shopper	Courier
Bookseller	Gardener	Picker	Cracker Barrel
Bossman	Gartner	Plumber	Crew Member
Fast-food worker	General labor	Railroad Conductor	Culinary
Busser	Grader	Rancher	Custodian
Butcher	Grocery	Realtor	Customer service
Buyer	Groomer	Receiver	Delivery
Call center agent	Guest Relations	Refractory Bricklayer	Digital Shopper
Caregiver	Hairdresser	Retailer	Dining Room Server
Carpenter	Halliburton	Rigger	Dish washer
Cart attendant	Handyman	Roofer	Dispatcher
Cashier	Helpdesk	Salesperson	Dispenser
Catering	Helper	Sanitation	Distribution Center
Chaplain	Homeworker	Scan coordinator	Docker
Cleaner	Hospitality	Scheduler	Dog Groomer
Clerical	Hostess	Secretary	Courier
Clerk	Housekeeper	Security	Cracker Barrel
Click list Association	Illustrator	Selector	Crew Member
Client Services	Inbound	Server	Culinary
Collector	Industrial Painter	Shifter	Custodian
Combo Welder	Installer	Ship dock	Customer service
Concessionist	Instructor	Social Worker	Delivery
Construction	IT Delivery	Sorter	Digital Shopper
Controller	Janitor	Stocker	Dining Room Server
Cook	Journeyman Insulator	Stower	Dish washer

Note: This table presents the list of all Blue-collar jobs from 2010 to 2022.